

# An Energy Plan for a Growing Community

By Dan Stone

The Town of East Gwillimbury has made great strides towards becoming one of the foremost sustainable communities in Canada. The importance of taking such a leadership role is

heightened by the fact that the town's population is expected to grow from the current 23,000 to as many as 150,000 by 2051.

Among the leading initiatives is the requirement that all new homes must meet or exceed the Energy Star for New Homes standard. In 2005, East Gwillimbury became the

first town to make this a mandatory requirement for new development and subsequently required all new institutional, commercial and industrial construction meet or exceed LEED NC Silver performance level.

In December 2009, council formally adopted the town's Community Energy Plan, one of the boldest and most comprehensive plans developed in Canada. The town thus became one of the first municipalities to prepare a Community Energy Plan as part of an official plan review process and incorporate energy policies into the official plan. Funding for the development of the Community Energy Plan was provided through the Federation of Canadian Municipalities' Green Municipal Fund. The research team, led by international energy expert Peter Garforth, collected and analyzed data to establish a baseline and explored global best practices to establish a plan that positions the town to reduce greenhouse gas (GHG) emissions by 30 to 50 per cent below baseline levels within the next 25 to 30 years.

The Community Energy Plan's overall objective is to achieve energy efficiencies and reduce the per capita GHG contributions by the town over both the 2031 planning horizon and longer term.

The six core recommendations of the Community Energy Plan are:

- **Energy Efficient Buildings:** Implement very efficient building standards, expanding on the town's current green building policies for new development, together with an energy performance labelling system for existing buildings.
- **Renewable Energy Sources:** Promote alternative forms of energy by installing significant renewable energy sources, including solar and wind.
- **Land use and Compact Urban Form:** Create energy efficiencies through planning and development policies which require more compact, mixed-use neighbourhoods with increased opportunities for local employment.
- **District Heating and Energy:** Implement a district energy system to serve the majority of growth in the town's Central Growth Area with the development of combined heat and power facilities providing thermal energy distribution through a community controlled Energy Service Company utility.
- **Transportation Efficiencies:** Increase transportation efficiency through the provision of public transit, the promotion of alternative forms of transportation, and developing a live/work community.



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In June 2010, council adopted its new consolidated official plan, which includes a series of progressive policies focused on sustainable development and energy efficiency in order to successfully implement the Community Energy Plan.

The town is cautiously optimistic about East Gwillimbury's progressive policy initiatives with the Community Energy Plan and the new official plan. It is well understood that the true measure of success will be the town's ability to implement these policies. Implementation will require a strong commitment both at the political and staff level, but most importantly, continued partnerships with the development community. To date, the town has been fortunate in delivering successful energy efficient developments under the town's green building policies in partnership with some of the more progressive members of the development community including Minto Homes, Fifthshire Homes and Fieldgate Commercial Developments, who have embraced the town's policy requirements for Energy Star and LEED.

Achieving the ambitious targets of the Community Energy Plan will be a challenge for the town, particularly when faced with significant growth and close to a four-fold increase in both residential and employment population, forecast under the new official plan over the next 20 years. Central to the implementation strategy is the commitment to apply sustainable development policy equitably to all new development. The town will continue to allow for, encourage, and incent innovation and new technology to be introduced by the private sector. In response to growing concerns with the larger issue of climate change and increased energy costs, the town will position itself as the community of choice for residents and investors committed to sustainable development and who recognize the short and long term economic value and marketability of energy efficient development.

The town's advancement in sustainable development is the result of the vision and leadership of the mayor and council. According to Mayor James Young, "I strongly believe that we need to re-invent the way that we approach development with a stronger focus on building strong, energy-efficient and sustainable communities. In East Gwillimbury, we are committed to working with our partners in the industry to find new ways to achieve our objectives in a way that makes sense now and for future generations."

The town has initiated policy research to implement the renewable energy supply and generation element of the Community Energy Plan. The project includes an assessment of the application of the Merton Rule



From left to right: Bryan Tuckey - Commissioner of Planning & Development Region of York, Peter Garforth - Garforth International Energy Consultants, James Young - Mayor of East Gwillimbury, Peter Love - Principal, Elenchus & former Chief Energy Conservation Officer for Ontario, Tom Webster - Chief Administrative Officer for the Town of East Gwillimbury

to East Gwillimbury and, with scalability, to other communities across Ontario and Canada. Funding for this project is being provided by the Ontario Power Authority. The Merton Rule is named after the London

borough, which includes Wimbledon, which adopted a 10 per cent minimum renewable energy requirement for new commercial buildings in 2003. This was later amended to include residential units in developments over 10 units. In 2005, the London region-

al government adopted a prescriptive renewable policy. Currently, approximately 200 boroughs in the U.K. have successfully adopted a similar policy.

This project is undertaken by a team led by Ontario's former Chief Energy Conservation Officer Peter Love and includes technical and municipal law experts, including a former employee of Borough of Merton. The research study includes an evaluation of the various technologies available,

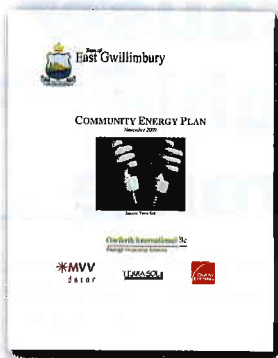
the economics and costing of the various on-site renewable energy options, and a recommended policy approach for the town. It is expected that the policy approach will be phased in over time and include a "menu" and range of renewable energy options, which could be employed for new development, depending on individual project characteristics and circumstances. Included in the analysis are a range of programs and incentives, including Ontario's FIT program.

The results of this study are expected this fall and will include consultation with renewable energy technology suppliers and the development industry.

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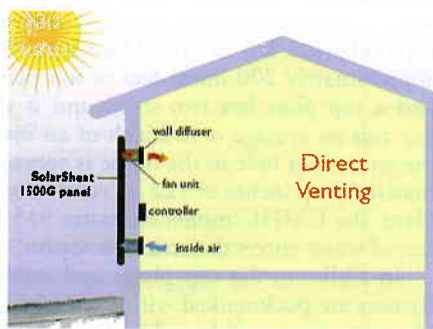
The town hopes private sector engagement will result in pilot or demonstration projects, which could be advanced in the short term to help measure how successfully the Merton Rule could be applied in East Gwillimbury and Ontario.

*By Dan Stone Manager of Policy Planning, Town of East Gwillimbury and Peter Love, Associate, Elenchus.*



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Stand alone systems are perfect for lofts above garages, additions, and even for dumping heat into common areas. Most solar air panels have a small integral



PV panel which powers an internal fan which draws air directly from the room, heats the air, and then dumps the heated air back into the room. These systems come with their own thermostat, and the panels can be ganged together to increase capacity.

In sum, I won't deny that it's a great time to think about investing in a roof top PV system, but I would also suggest that builders and homeowners also look at the more affordable solar air option because it's the one that directly addresses heating, the largest single energy load in the house.

*Peter Kinsey is the President of Canadian In-Floor Heating.*